City Overview

Oslo: Reimagining the City for a Carbon-Free Future

OSLO

CITY

OVERVIEW

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City Overview

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→ A view of the Oslofjord and the city's financial quarter

Introduction

European Green Capital of 2019 and widely regarded as the world's electric car capital, Oslo has had a long and sinuous saga that has recently catapulted it to the forefront of successful ecological transitions and urban adaptations to climate change. Over the past two decades, the Nordic metropolis has leveraged the expertise of architects, urban planners, researchers, construction and infrastructure professionals, and political leaders to design flagship urban projects, forming some of Europe's most ecologically remarkable neighborhoods. Oslo has thus reinvented and redeveloped Vulkan, a former industrial district along the Akerselva River, and turned it into a cultural hub that is energetically self-reliant, thanks to the power produced by an on-site 300-meters-deep geothermal plant. Oslo's newly rehabilitated former industrial waterfront, known as Fjordbyen ("Fjord City"), now sports squares lined with cafés, promenades, and offices, and has led to the emergence of an urban bathing culture.

The Norwegian capital stands out for its ambitious environmental objectives, starting with a 95% reduction in greenhouse gas emissions by 2030. To reach this goal, Oslo has actively encouraged the purchase of electric vehicles, introduced urban tolls to finance public transportation, and set up infrastructures to encourage active mobility (cycling, walking, etc.). This overall effort to reduce the city's carbon footprint is also behind the gradual electrification of the construction sites that dot Oslo's streets. Collaboration between key industrial actors, such as construction material suppliers, manufacturers of specialized machinery, and tech companies, has allowed the industry to implement renewable and low-emission energy solutions.

Oslo's bold policies, innovative choices and political, and social capital have enabled it to bring about sweeping changes. By promoting low-carbon construction, transforming former industrial sites, and encouraging the transition to electric vehicles and low-carbon mobility, Oslo successfully adapted to the growing challenges of climate change and fostered a more sustainable urban environment. To understand the reasons behind this success, La Fabrique de la Cité organized an urban expedition to Oslo from July 10th to 12th, 2024, bringing together French and European experts. The goal: to draw inspiration from Oslo's experience and identify best practices that may be applied in France and the rest of the world.

Portrait

Oslo Through Time: Exploring the City's Historical Evolution

Continental Europe's second northernmost capital, Oslo has a long and storied history intertwined with its neighbor Sweden and former ruler Denmark. Oslo's original settlers, made up initially of small single family farms, founded the city in the late phases of the Viking age, when King Harald Hardrada declared it to be a trading post in 1049. It wasn't until the year 1299 that Oslo became a capital, when King Haakon V of Norway declared the city his permanent residence and simultaneously built the Akershus Fortress across the fjord to defend the city from raiding parties and foreign invasions.

A mere decade later, following the Black Death's rampage throughout the city, Oslo lost its status as capital city, as Norway, Sweden, and Denmark united to form the Kalmar Union. With the monarchs of the new Union settling in Copenhagen, the Norwegian royal residence and cultural and religious center of the country was relegated to a provincial administrative center. Unfortunately, the city's woes did not end there, as successive spates of destructive fires razed its old wooden construction in the 1620s, forcing king Christian IV of Denmark to abandon the old city. In its place, a new city named Christiania was built on the other side of the bay, around the Akershus Fortress, where commerce, trade, and religious institutions slowly started to thrive while remaining under the power of the Danish Royalty.

As Norwegian historian and researcher Dag Thorkildsen explains, *"Norway entered the 19th century as a part of the Danish absolute monarchy, which was a composite state, but left the 19th century as an independent and sovereign nation state."* Indeed, any real conception of Norwegian national identity before it ruptured its union with Denmark in 1814, reinstating Christiania as the capital city, was minute and mainly relegated to a small circle of elites. While Norway was not yet a sovereign nation, due to the personal union established with Sweden following the Treaty of Kiel, the creation of a Norwegian constitution, establishment of several state institutions (Bank of Norway, Royal Palace, Storting [1]), and rapid increases in population helped the budding territory forge an identity of its own.

Norway, a renewable energy producer for over a century

Low-carbon electricity production is nothing new in Norway. In fact at the end of the 19th century, hydroelectric turbines began to harness the power of the many rivers flowing out of the country's mountains for the benefit of all Norwegians. From the very start of the industrial era, the country thus had access to a renewable source of energy that was easy to use and inexpensive to produce, thus 99% of its energy consumption came from within the country. However, "Norway's hydropower potential is now almost fully tapped", says Philippe Guérin, Director of Norway at VINCI Energies. "Yet it is estimated that the need for electricity capacity will increase by 50% over the next 10 to 15 years". To take the lead, Norway has been investing in wind power for several years with a current installed onshore capacity of 5 GW, it intends to increase this to 15 MW by 2040. While necessary, these projects are sometimes difficult to accept, particularly among the Saami population in the north of the country. Simultaneously, Norway aims to increase installed offshore wind power capacity from 0.01 GW to 30 GW by 2040.

[1] Located in Oslo, the Storting is the supreme legislature of Norway, established in 1814 by the Norwegian Constitution. This unicameral parliament has 169 members and is elected every four years based on party-list proportional representation in nineteen multi-seat constituencies.

This was precisely the period of *nasjonalromantikken*, or National Romanticism, wherein researchers studied for the first time Norway's language, literature, art, music, and various folk traditions with Oslo as the historical, religious, and cultural center of territory. Famed dramaturge Henrik Ibsen and Nobel Prize in Literature laureate Bjørnstjerne Bjørnson, collectors and anthropologists Peter Christen Asbjørnsen and Jørgen Moe, and celebrated folklorist Henrik Wergeland provided the cultural capital for the revival and formation of Norway's modern national identity.

Following this period of nation-building, Norway's full emancipation from Sweden came a hundred years after, when it amicably split its ties with its neighbor in 1905, solidifying its place in continental Europe as a new sovereign country. At this time, Christiania reverted to its original name, 'Oslo', for the first time in almost 300 years.

Thanks to oil and gas exploitation, which began in the 1960s, the late 20th century brought forth a new era of unexpected economic development for Norway. Sixty years later, the country is now the world's seventh-largest oil and gas producer. This windfall associated with oil and gas has made Norway the fourth-richest state in the world, with a nominal GDP of $554 billion ($101,000 per capita) in 2023. It has also given Norway the world's largest sovereign wealth fund (1,500 billion euros, three times Norway's GDP), ahead of the Chinese and Emirati funds. In addition to financing a generous welfare state, robust infrastructure (particularly road and bridge construction), comfortable public services and progressive social policies recognized by the United Nations, Norway's sovereign wealth fund, with an annual growth rate in excess of 20%, has another distinctive feature: it is largely used to finance carbon reduction initiatives. Herein lies the Norwegian paradox: one of the world's largest producers of oil and gas is also one of Europe's leaders in the fight against climate change. As part of the Green Deal, Norway has set itself the target of reducing its greenhouse gas emissions by 55% compared with 1990 levels, and has also signed several treaties with the European Union (of which it is not a member) on projects of common interest involving hydrogen and carbon capture and storage, including the Northern Lights project in the North Sea, which is set to transform European industry.

"Oslo is an exemplary city because it is one of the best at integrating intelligent ecological solutions with urban development"

Florence Robine, *French Ambassador to Norway*

Norwegian leadership in ecological matters explains the capital's pioneering position in urban carbon-free development. *"Oslo is an exemplary city because it is one of the best at integrating intelligent ecological solutions with urban development,"* says Florence Robine, the French Ambassador to Norway. In keeping with increasingly stringent environmental standards and a strong climatic conscience, the city has put an end to urban sprawl by adopting a densification strategy. Oslo is thus expanding from the center outwards, gradually densifying the area around certain metro stations, in particular to reduce the number of car journeys within the city limits. This is a priority for this rapidly growing city, which gains some 9,000 inhabitants every year.

Finally, and this is perhaps its most distinctive feature, Oslo is surrounded on all sides by nature, most notably the Marka forest, which has remained remarkably unspoilt since the 1950s. In 2009, a national law nicknamed *Markaloven* completed the process of securing the forest's borders, prohibiting all construction projects and restricting motorized traffic. This law reflects a taste for nature so widespread among Norwegians it even has a name: *"friluftsliv"*. And indeed, it is not uncommon for the streets of Oslo to be deserted on the weekends, as people go out into nature. Hiking in summer, skiing in winter... *Friluftsliv* is a year-round activity. With the Oslo Fjord to the south and the protected forests of Marka to the north, east, and west, it plays an important role in the lives of Oslo's inhabitants.

Oslo's vision, incentives and regulations for low-carbon mobility

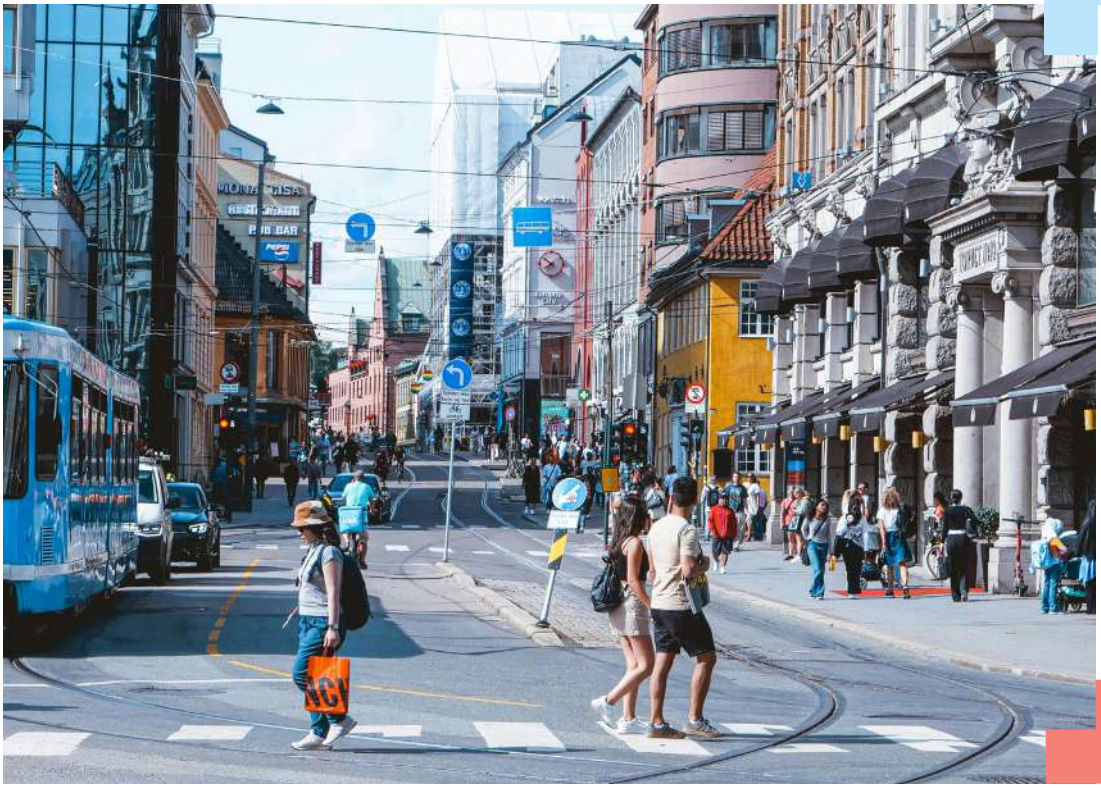
If Oslo is regarded as the electric car capital of the world, it is largely thanks to its ambitious policy encouraging electric mobility since 2000. The Norwegian government initially introduced a package of tax incentives (VAT, customs duty and purchase tax exemptions), coupled with incentives for use (free urban tolls and parking for electric vehicles, right to use bus lanes, etc.). These measures were supplemented by government subsidies for at-home installation of charging stations and the introduction of requirements in public procurement contracts. *"This policy of encouraging the switch to electric vehicles has been a great success for Norway,"* notes Philippe Guérin, Country Director, VINCI Energies Norway. In fact, over 80% of new vehicles sold today are entirely electric. Such has been the success that the government is now removing some of these incentives, introducing taxes (albeit comparatively low) on the purchase of electric vehicles, (charging them with decreased prices in comparison to fossil fuel vehicles, to pass urban road tolls), and banning them from bus lanes in Oslo.

These incentivizing policies are now being replaced by strategies to reduce the modal share of cars. Norway has set itself a clear objective in this respect: any growth in passenger transport must now be absorbed by cycling, walking, and public transportation. The end goal: a reduction in greenhouse gas emissions and congestion. To achieve this, the State has signed long-term tripartite "urban growth" agreements with the counties and municipalities of several major cities, covering both the use of private vehicles and the operation of public transportation and land-use planning.

→ Tram lines in Oslo's city center

Oslo's city tolls

Formed by three rings encircling the city, Oslo's city tolls were introduced in the 1990s, and offer a significant advantage to electric vehicles (which only pay 70% of their price). These congestion charges function de facto as a low-carbon emission zone by discouraging intramural vehicle traffic and promoting a shift to public transport, cycling and walking. Despite initial public resistance, these tolls now represent an integral



part of Oslo's mobility system. The revenues they generate are fully allocated to improving public transport, cycling infrastructure and pedestrian areas. However, this method renders the city partially dependent on car traffic for the maintenance, not only of its public transport network, but also of its cycling and pedestrian infrastructure (20% of the maintenance budget indeed originating from it).

→ Oslo's city tolls

Following in the footsteps of the Norwegian State, Oslo has set itself ambitious targets for making urban mobility carbon-free, backed by a strong political will and an *ad hoc* regulatory framework. In the early 1990s, the Norwegian government and the municipality of Oslo set out to tackle the pervasive use of cars, a major source of carbon emissions. A financing plan, Oslopakke 1 (1990-2001), was then implemented, establishing a congestion charge to empty the streets of cars, and including funding for underground freeway projects running beneath the capital. The successor to this plan, Oslopakke 2 (2001-2008), also set out to combat traffic, allocating substantial state, regional, and municipal funding, as well as a share of revenues from urban tolls to public transportation investment (metro and tram lines, renewal of rolling stock, etc.). *"Drivers' money then goes to fund public transportation rather than roads,"* explains Hanna Bertnes Norli, Chief Advisor at Asplan Viak and former Ruter employee. *"But the plan has a high degree of acceptability, as drivers have everything to gain from reduced congestion."* The third plan, Oslopakke 3 (2008-2045) continues this policy of investment in public transportation (notably by raising the urban toll), while combining it with a proactive strategy to promote walking and cycling. By 2023, 98% of the plan's funds have been used to encourage these two modes of travel as well as public transportation. *"Since 2008, the modal share of automobile traffic has remained stable. The goal set by the government has therefore been achieved: growth in transport demand is being absorbed by other modes,"* concludes Hanna Bertnes Norli.

Today, Oslo's climate strategy sets intermediate targets to enable the transport sector to achieve carbon neutrality by 2030: to make walking, cycling, and public transportation the preferred means of transport in Oslo, and to ensure that all new light vehicles and municipal buses are made carbon-free by 2025, public transportation by 2028, and heavy vehicles and ferry traffic on the fjord by 2030. *"Oslo's buses are already electric, streetcars and subways always have been, and boats will be too,"* says Halvor Jutulstad, Director of Planning and Infrastructure at Ruter, the authority responsible for organizing public transportation in Oslo and neighboring Akershus County. *"Despite the carbon footprint of battery production, switching to electric buses cuts emissions by more than half compared with diesel buses, and solves the problem of fine particles".*

→ Bike sharing in the city of Oslo

"Since 2008, the modal share of automobile traffic has remained stable. The goal set by the government has thus been achieved: growth in transport demand is being absorbed by other modes"

Hanna Bertnes Norli, *Chief Advisor at Asplan Viak*

Creating a car-free city

In 2016, as mobility and cars accounted for 60% and 40% of its emissions respectively, Oslo launched a "car-free livability" program, aimed at fostering the pedestrianization of its city center. The aim was to accelerate the process of making the city center car-free by eliminating parking spaces and transforming them into parklets, street furniture, and bicycle lanes to reappropriate areas that have been historically dominated by car traffic. *"In Oslo, the approach is global and systemic. It's about reducing the overall systemic efficiency of cars while creating a highly efficient public transportation system and redesigning urban planning to reflect these changes"*, sums up mobility expert Julien de Labaca. The results are clear to see: *"the modal share of cars in Oslo today is only 20%, compared to 39% for walking and 26% for public transportation"*, explains Isak Solomon, Mobility Advisor to the Oslo municipality. Underlying these figures is the city's substantial budget for non-vehicular mobility infrastructure, ten times higher than that allocated to the development of electric vehicles.

"In Oslo, the approach is global and systemic. It's about reducing the overall systemic efficiency of cars while creating a highly efficient public transportation system and redesigning urban planning to reflect these changes"

Julien de Labaca, *mobility expert*

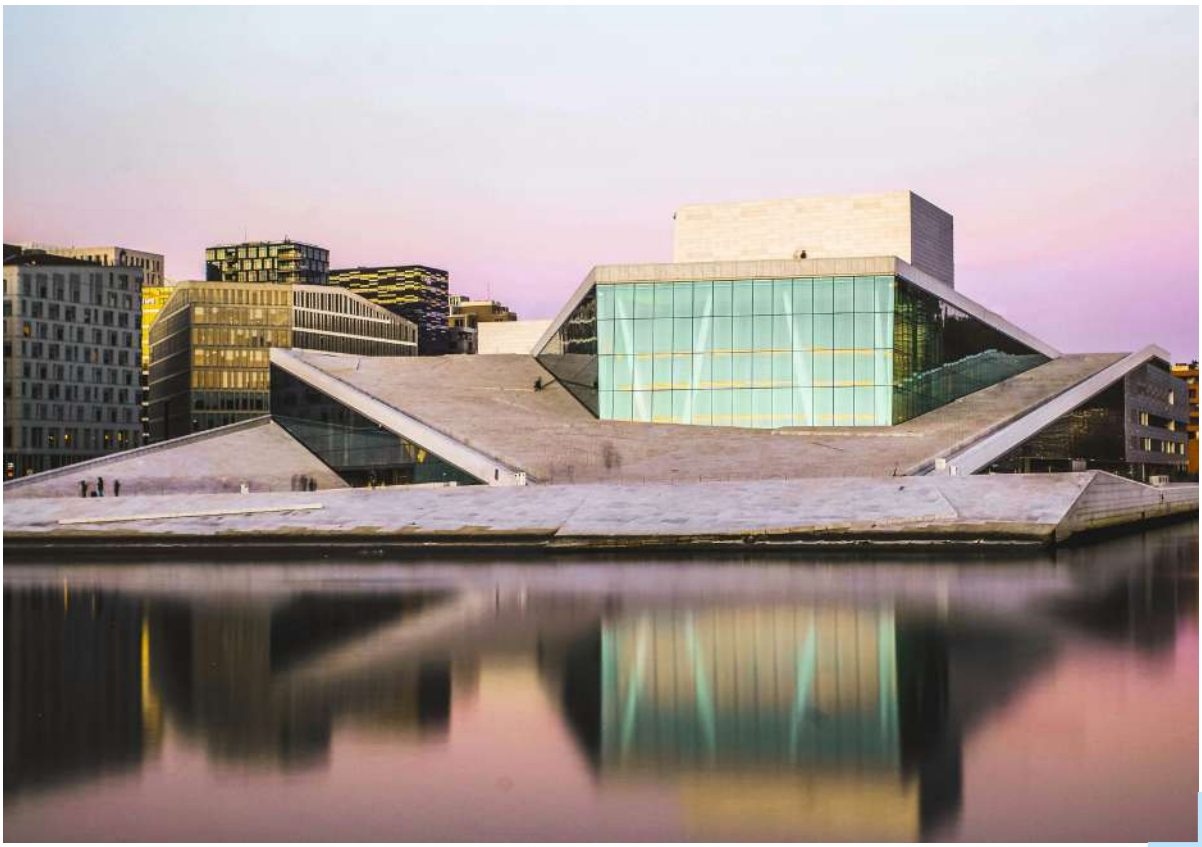
The city also aims to increase the modal share of bicycles from just 7% to 16% by 2025 and to build 15km of cycle paths every year; between 2020 and 2023 [2], 100 km of paths have already been completed. To promote bicycle travel, the city also introduced the "Oslo Standard" in 2017, a set of measures designed to facilitate the movement of bicycles. *"Cycling is destined to become an integral part of urban space and city life. To achieve this, we need to make cycling safer and more efficient, through a combination of minor adjustments and more substantial infrastructure,"* explains Peter Hemmersam, Professor of Urban Design at the Oslo School of Architecture and Design. *"We're not there yet, but we're getting there."* To this end, the city has also published a public parking guide, setting out parking standards for all types of bikes with an emphasis on cargo bikes to facilitate deliveries and reduce road traffic. In a climate like Oslo's, with its particularly cold winters, maintenance of the metropolitan area's extensive network of cycle paths also considerably increases the number of cyclists in winter. Oslo's emphasis on the maintenance of priority bicycle lanes has resulted in a 78% increase in bicycle traffic during the cold season. All in all, thanks to the concerted actions of the city council and urban planning agencies, Oslo has rapidly become one of the Nordic cities where cycling is easiest. The city is also committed to promoting walking, to which it dedicated a new strategy in June 2024, and which it now recognizes as a mode of transport in its own right. *"In recent years, the city has changed the order of priority for different modes of transport,"* sums up Oddrun Helen Hagen, Senior Advisor at the Norwegian Institute of Transport Economics. *"Cars have gradually been deprived of the role they have long played. We are now reallocating space to pedestrians and cyclists instead"*.

[2] Certain Norwegian mobility experts contest this choice, however, arguing that the increase in the number of kilometers traveled is a better indicator of the relevance of a policy to promote cycling than the kilometers of trails available.

Reclaiming Oslo's fjord and riverbanks

Today, the main objective of Oslo's master plan is to ensure sustainable and climate-neutral urban development that further develops the city's urban, natural, and historical qualities [3]. The Norwegian capital is duty-bound to act in a manner that reflects the aspirations and priorities of its citizens by maintaining a high standard of ecological construction and upholding its unwavering commitment to climate action.

Some of the most marked reappropriation projects have been the renovation and reconstruction of the communities in formerly industrial sites mainly located along the rivers in Oslo, or by the fjord, to take advantage of the energy offered by the running water. With factories no longer operational, many of these disused neighborhoods had lost their dynamism. One of these formerly industrial sites, Vulkan, is located right along



→ The Oslo Opera House

[3] Oslo Kommune 2015.

the Akerselva River and has been completely renovated, breathing a second life into the neighborhood. The district, known for its innovative and environmentally friendly approach to urban development, features sustainable architecture, geothermal energy and solar power, a large food court, and a diverse mix of services, including offices, housing, restaurants, shops, and cultural and education services. One key tenet of this revitalization process is the adaptive reuse projects of Vulkan's post-industrial buildings: the most notable example being Grünerløkka Studenthus, the famed renovation of former grain silos into student dormitories. These large towers, consisting of three rows of seven grain silos, are now transformed into a monolithic sculptural form with colorful accents between the windows and house over 140 students. Vulkan's sustainable urban development reflects Oslo's will to create a highly energy-efficient district based on the ideas of sharing land, resources, and the urban recycling of industrial buildings. *"The attention paid to the Akerselva River reflects the city's desire to uncover, as early as 2015, the waterways buried after the Second World War, in order to renature urban space, protect biodiversity and guarantee greater resilience during episodes of heavy precipitation, which Oslo anticipates will become more frequent in the coming years,"* Peter Hemmersam explains.

Urban renewal is not restricted to the industrial sites along the Akerselva river. Fjordbyen, a massive urban renewal project that began in the 1980s, has completely transformed Oslo's waterfront. Once undesirable, isolated, and sparsely populated, the harbor has been remodeled into an accessible, popular district, attracting visitors from near and far to its promenades, beach, parks, and nearby Viking Museums. This project has also rekindled a relationship between the people of Oslo and their fjord, yet another example of the principle of *frilufstliv*. This renovation has also allowed the city to build some of its most noteworthy landmarks: the Oslo Opera House, the Munch Museum, Aker Brygge, and Tjuvholmen. Designed by the Snøhetta agency and inaugurated in 2008, the opera house is an iceberg of stone, wood, and metal, its 38,500 square meters resting on almost 30 km of pillars. Designed by the Spanish architectural firm Estudio Herreros, the new Munch Museum has for several years housed the work of Norway's most famous painter, as well as the three versions of his *Scream*.

"The attention paid to the Akerselva River reflects the city's desire to uncover the waterways buried after WWII, in order to renature urban space, protect biodiversity and guarantee greater resilience during episodes of heavy precipitation"

Peter Hemmersam, *Professor of Urban Design at the Oslo School of Architecture and Design*

The 60-meters-high building, made of low-carbon concrete and recycled steel, overlooks the fjord; its corrugated aluminum facades protect visitors from the summer heat without consuming energy.

"The attention paid to the Akerselva River reflects the city's desire to uncover the waterways buried after WWII, in order to renature urban space, protect biodiversity and guarantee greater resilience during episodes of heavy precipitation" – Peter Hemmersam, Professor of Urban Design at the Oslo School of Architecture and Design.

The Fjordbyen project provides a fascinating example of the way in which Oslo has successfully transformed its industrial past into a vibrant, modern present. With its focus on sustainability, mixed-use development, and public access, it has created a waterfront that fosters a strong sense of community. As the project unfolds in the coming years, Fjordbyen should continue to redefine Oslo's relationship with its picturesque fjord, undoubtedly serving as a model for future waterfront development around the globe.

A pioneering city in zero-emission construction sites

Oslo's construction sector is currently responsible for 7% of the city's CO_2 emissions [4]. *"It is therefore one of the areas we are focusing on to achieve our carbon-free goals,"* explains Kristine Bekkelund, Sustainability and Innovation Advisor at Oslobygg, the municipality's property manager [5]. In 2016, Oslo adopted a climate and energy strategy aimed at reducing its direct emissions by 95% by 2030 through coordinated action across all sectors [6]. As part of this strategy, in 2017 the city began requiring carbon-free construction sites, i.e., using power sources that emit no greenhouse gases for their operation. Two years later, Oslo published common tender criteria for all its projects worth more than €500,000, giving preference to companies able to offer carbon-free construction equipment, particularly for transporting construction waste. These criteria will be compulsory from January 1, 2025, onwards. *"We will require all machinery and equipment used on site to be guaranteed emission-free and all vehicles to be carbon-free,"* adds Kristine Bekkelund.

When Oslobygg announced these criteria in 2019, the market for electric construction machinery was insufficiently developed to meet the new requirements. The municipality therefore initiated a dialogue with the main industrial actors – an approach quickly crowned with success. *"The former mayor of Oslo used to say, 'We asked the market, and the market answered'"*, says Andre Åsrud, Senior Advisor for the Clean Construction Program at C40. "The Nordic countries have common climate objectives, but Oslo has operationalized them on a project scale, and this is crucial to achieving results," explains Gustaf Werner, Vice President Innovation at Swedish construction group Skanska. *"We can then join forces with our suppliers to go further and be bolder in our contracts, despite our sector's high risk and low margins"*. Today, 62% of the machines used on Oslobygg's construction sites are carbon-free. But the municipality is looking even further ahead: the entire construction sector, both municipal and private, must achieve carbon neutrality in Oslo by 2030. In fact, the city is already home to its first completely carbon-neutral building site: a future public day-care center, involving the renovation of 13,000 m^2 of buildings and the creation of a 7,000 m^2 playground, at a total cost of 110 million euros. At Stovner Bad [7], the site of a future swimming pool just outside Oslo, electric trucks and machinery work side by side on a daily basis; the construction site should be entirely carbon-neutral by 2025.

"The Nordic countries have common climate objectives, but Oslo has operationalized them on a project scale, and this is crucial to achieving results"

Gustaf Werner, *Vice President Innovation at Skanska*

[4] Without considering emissions linked to the transport of goods or people to and from the site.

[5] Oslobygg is responsible for developing, building and managing a portfolio of 2.7 million square meters of nurseries, schools, retirement homes, fire stations and sports and cultural facilities.

[6] Compared with 2009 levels.

[7] Oslo. Stovner bad. Oslobygg skal bygge nytt bad i Fossumdumpa på Stovner. URL : https://www.oslo.kommune.no/slik-bygger-vi-oslo/stovner-bad/

The gradual electrification of the construction sector has not been without its challenges. *"We have estimated that by 2030, construction sites (including transport) will account for 3% of total electricity demand,"* explains Andre Åsrud. *"The challenge of access to electricity calls for planning and dialogue with suppliers"*. Added to this, is the abundance of subcontractors on civil engineering sites, and the dense urban environment in which electrification must take place. *"This requires precise planning, particularly with regard to charging times,"* notes Andre Åsrud. But the private sector is already rallying to identify solutions, beginning with the widespread use of battery containers. *"Volvo has already started to manufacture them"*, notes Élodie Guyot, Director of Electric Mobility at Volvo Construction Equipment, *"bearing in mind the need to recycling batteries at the end of their life cycle"*. The next challenge ahead? Scaling up. *"The challenge is to go from one carbon-free worksite to a hundred,"* explains Gustaf Werner, of Skanska. *"In cooperation with Volvo, we have started producing autonomous electrified machines. We are now using these same technologies on the Los Angeles metro site"*.

"By 2030, construction sites will account for 3% of total electricity demand. The challenge of access to electricity calls for planning and dialogue with suppliers"

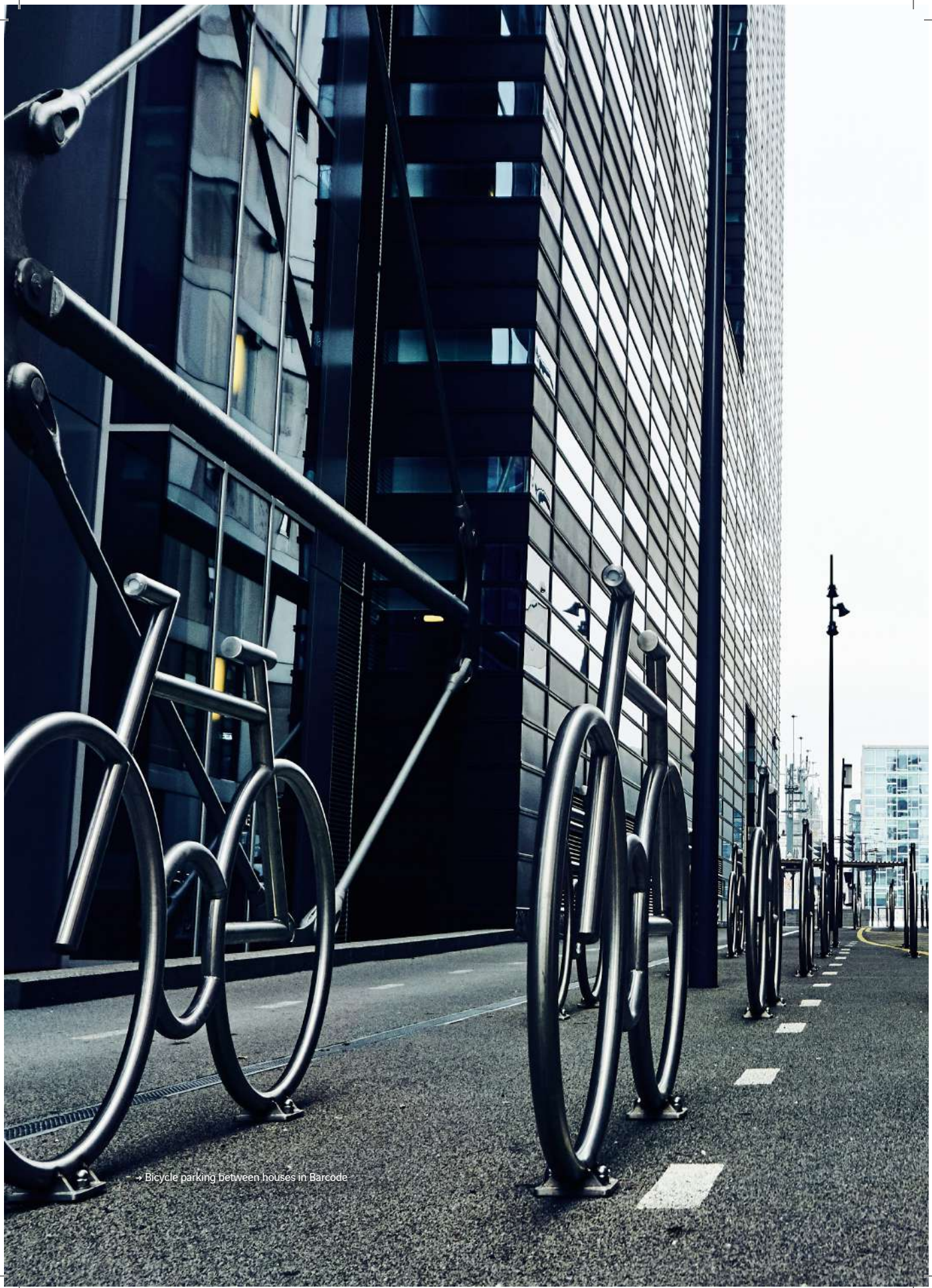
Andre Åsrud, *senior advisor for clean construction team at C40*

→ Oslobygg construction site

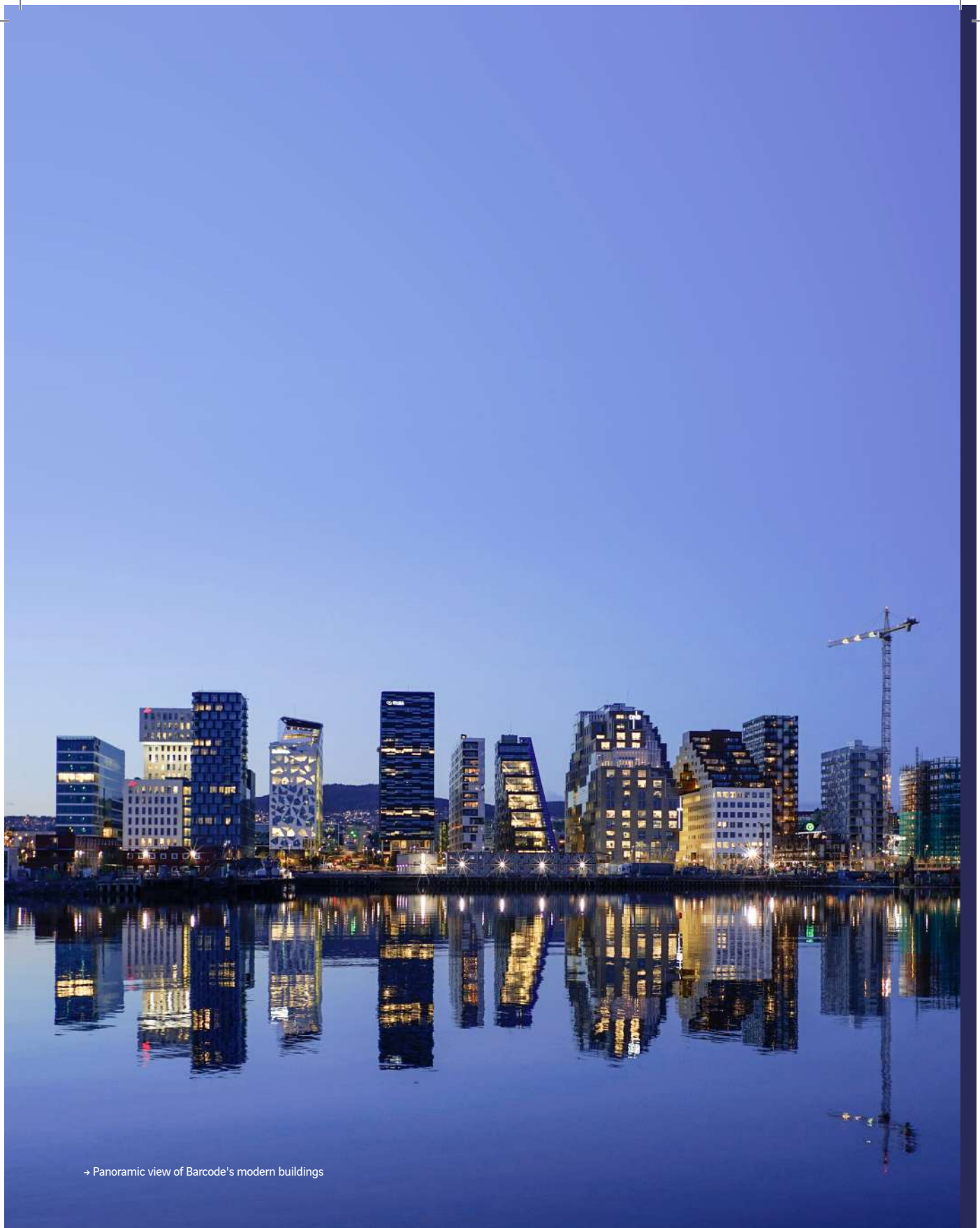
Conclusion

Between voluntarism and pragmatism, an example to follow

It is no coincidence that we have chosen to organize this learning expedition around the two themes: "Carbon-free mobility & environmentally-friendly construction" and "Planning practices." Indeed, the voluntarism, pragmatism, and methods applied by Oslo can positively contribute to French thinking on the future of low-carbon mobility, as well as on low-emission construction and renovation. However, Oslo has not yet reached all its ambitious targets, (a fact confirmed by the experts we met), and the road ahead remains long. Yet the pioneering role played by the city's diverse actors, who are pragmatic, proactive, pluralistic, and convinced that the field of possibilities is vast, is undeniably a source of inspiration for all those committed to ecological transitions, wherever they may be.



→ Bicycle parking between houses in Barcode



→ Panoramic view of Barcode's modern buildings

Key figures

Norway

POPULATION & KEY ECONOMIC FACTS

Population	5.5 million (2022)
Surface area	385,207 km^2
Population density	14.4 inhabitants/km^2
Official languages	Two official written forms of Norwegian (bokmål and nynorsk) and sámi languages, which have official status in nine municipalities
Gross domestic product (GDP)	$461.107 billion (2021)
GDP per capita	$82,832 (2021) (vs. France: $36,869 (2021)

GREENHOUSE GAS (GHG) EMISSIONS

Global GHG emissions	Norway accounts for 0.13% of global emissions According to the EU, Norway is 59th in the ranking of most GHG emissions by country

MOBILITY

Number of Electric Vehicles and Hybrids	894,000 (2023) 160 electric or hybrid vehicles per 1,000 inhabitants (vs. 20 per 1,000 inhabitants in France)

Norway has implemented a Zero Growth Agreement nationwide for private car traffic in urban areas is to be absorbed by public transport, cycling and walking. Between now and 2030, the volume of vehicular traffic is not to increase, regardless of whether fossil fuel-powered or electric cars are used.

Moreover, in terms of national emissions reductions, the oil and gas industry is one of the leading sources of GHG emissions in Norway, accounting for around a quarter of the country's total emissions.

The industry has ambitions to further reduce emissions in the upstream petroleum sector up to 40% by 2030 compared to 2005, and to achieve net zero emissions by 2050.

Oslo

POPULATION & KEY ECONOMIC FACTS

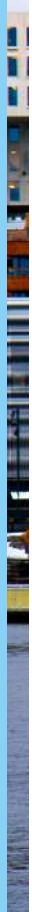
Population	705,643 (2022) (vs. Paris: 2,102,650 Marseille: 873,000 Lyon: 522,000)
Surface area	129 km^2 (Paris: 105 km^2)
Population density	5,431 inhabitants/km^2 (Paris: 20,000 inhabitants/km^2)

GREENHOUSE GAS (GHG) EMISSION GOALS

Emission goals	- 95% by 2030 compared with 2009 levels -10% in total energy consumption compared with 2009

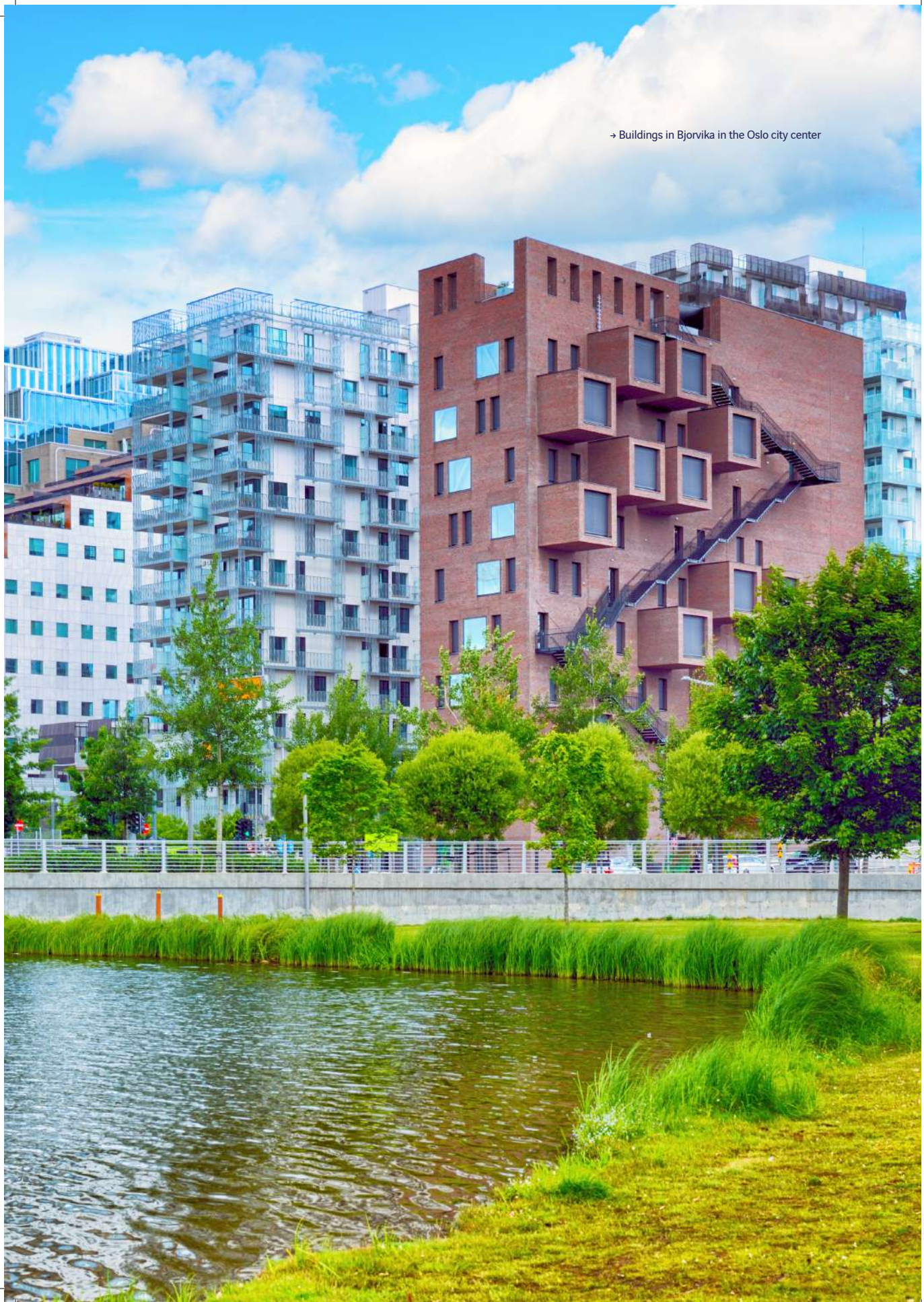
MOBILITY

Oslo has set the objective to decrease road traffic by 30% between 2009-2030
Oslo spends 10x more on cycling infrastructure than EV infrastructure
53% of cars and service vehicles are electric in Oslo
By 2030, 100% of new cars and service vehicles will be electric
Of all the EV's in Oslo, 80% have received at-home, government subsidized wall box chargers
In the last 8 years, Oslo has seen a 22% reduction in vehicular traffic
First city in Europe to establish curbside charges in 2006



→ The Munch Museum located on the Oslofjord

Oslo



→ Buildings in Bjorvika in the Oslo city center

About

La Fabrique de la Cité is a French think tank dedicated to urban transitions.

It seeks to bring together stakeholders and experts from diverse fields and geographical backgrounds to identify and understand the economic, social, and environmental challenges of the modern city. It relies on the members of its steering committee to set an annual program of debates, meetings, field studies and documentary work. Always attentive to French and international best practices, La Fabrique de la Cité is attuned to the various dynamics and equilibriums specific to local and regional areas. Moreover, it highlights inspiring initiatives, clarifies controversies, and fosters public debate on new city development models.

Founded in 2010 by the VINCI Group, its sponsor, La Fabrique de la Cité is an endowment fund committed, and is thus vested with a public interest mission. All productions are available on its website.

lafabriquedelacite.com

Leonard is the innovation and foresight platform set up by VINCI, a world leader in concessions, energy and construction, active in nearly 120 countries.

Leonard's mission is to monitor emerging trends in VINCI's businesses and markets to identify long-term challenges and objectives, to pinpoint opportunities for change in the Group's businesses and organization, to identify new growth drivers and to develop innovative projects. Leonard's incubation and acceleration programs are open to employees from the VINCI Group and startups.

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Crédits photos

→ *The skyline of Oslo: F11photo – istock*
→ *A view of the Oslofjord and the city's financial quarter: Norvège Drazen – istock*
→ *Tram lines in Oslo's city center: Jack White – Unsplash.com*
→ *Oslo's city tolls: Knut Opeide – Shutterstock*
→ *Bike sharing in the city of Oslo: Brunocoelhopt – istock*
→ *The Oslo Opera House: Arsene M Øvrejorde – Unsplash.com*
→ *Oslobygg construction site: Naren Yogarajah – Pexels*
→ *Bicycle parking between houses in Barcode: Oleksii Topoliansky – Unsplash.com*
→ *Panoramic view of Barcode's modern buildings: Photorama – Pixabay.com*
→ *The Munch Museum located on the Oslofjord: Naren Yogarajah – Pexels*
→ *Buildings in Bjorvika in the Oslo city center: Alxpin – istock*

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